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     FILE 'REGISTRY' ENTERED AT 18:34:43 ON 03 APR 2005
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L23           2 S L19
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L26           2 S L22

     FILE 'CAPLUS' ENTERED AT 18:37:37 ON 03 APR 2005
L27          36 S L23
L28           1 S L26
L29      306586 S IMAGE OR IMAGING
L30           5 S L29 AND (L27 OR L28)
L31          31 S L27 NOT L30
L32      244973 S PHOTOSENSITIVE OR PHOTOACTIVATABLE OR RECORDING OR PHOTOPOLYM
L33           9 S L31 AND L32
L34         114 S 5MW OR 5 MILLIWATTS OR 5MILLI WATTS OR 5 MILLI WATTS
L35         145 S 2MW OR 2 MILLIWATTS OR 2MILLI WATTS OR 2 MILLI WATTS
L36          50 S 3MW OR 3 MILLIWATTS OR 3MILLI WATTS OR 3 MILLI WATTS
L37          43 S 4MW OR 4MILLIWATTS OR 4MILLI WATTS OR 4 MILLI WATTS
L38           0 S (L34 OR L35 OR L36 OR L37) AND (L27 OR L28 OR L33 OR L31)
L39           0 S L34 AND L27

     FILE 'USPATFULL' ENTERED AT 18:45:25 ON 03 APR 2005
L40           4 S L23
L41           0 S L26
L42       91169 S MW OR MILLIWATTS OR MILLI WATTS
L43           2 S L42 AND L40

     FILE 'CAPLUS' ENTERED AT 18:48:03 ON 03 APR 2005
L44       65395 S MW OR MILLIWATTS OR MILLI WATTS
L45           0 S L44 AND (L27 OR L28)

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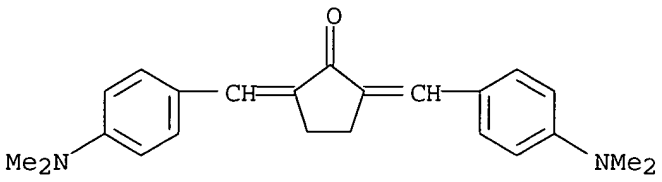
10/773,991 caplus l20 = str + Imaging

L30 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:502924 CAPLUS
DN 115:102924
TI Recording material containing unsaturated ketone and electron acceptor
IN Satomura, Masato; Takashima, Masanobu; Sano, Masajiro; Yanagihara, Naoto
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 03049982	A2	19910304	JP 1989-186249	19890719
PRAI JP 1989-186249		19890719		

AB The material uses color formation in contacting an electron acceptor with an unsatd. ketone obtained by condensation with substituted amino-containing aldehyde and ketone. The material is used in pressure-sensitive recording and thermal recording. A material containing unsatd. ketone condensed with melamine formaldehyde and I and Zn 3,5-bismethylbenzylsalicylate gave a clear and hard **image**.
IT **19226-99-4**
RL: USES (Uses)
(coloring agent, pressure-sensitive recording material containing)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)

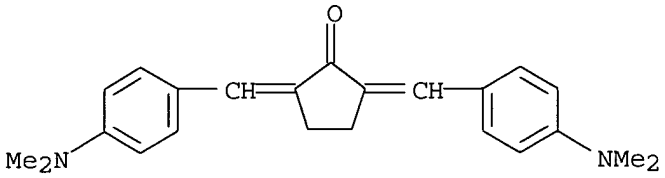


L30 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:100741 CAPLUS
DN 112:100741
TI Photopolymerization initiator and thermal-transfer recording medium
IN Okuma, Norio
PA Canon K. K., Japan; Sanyo Chemical Industries Ltd.
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01174502	A2	19890711	JP 1987-335731	19871228
PRAI JP 1987-335731		19871228		

AB The photopolymn. initiator is composed of I or II [Ar1, Ar2 = aromatic ring, heterocyclic ring; R1 = H, C1-10 alkyl, alkenyl, alkoxy, or alkylthio, C6-12 aryl, aryloxy, or heterocyclic ring with number of C and non-C atoms to be 5-15; X = non-metallic atom for forming a ring], and III [Y = halogen; R = alkyl, aryl, alkenyl; Q = CY3, NH2, etc.]. The thermal-transfer recording layer is composed of the photoinitiator, and monomer, oligomer, or polymer with unsatd. double bond or these mixture An **image** -forming material may be encapsulated. This initiator is especially useful in one-shot color recording.

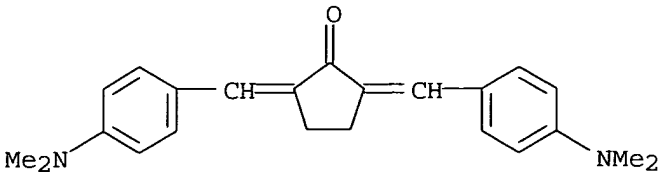
IT **19226-99-4**
RL: USES (Uses)
(photopolymn. initiator composition containing triazine derivative and)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L30 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1988:560691 CAPLUS
DN 109:160691
TI Visible laser-sensitive photoimaging compositions and processes
IN Tamaoki, Nobuyuki
PA Toyobo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 63055539	A2	19880310	JP 1986-126823	19860530
PRAI JP 1986-126823		19860530		

OS MARPAT 109:160691
AB The title material contains (a) a photooxidn. agent which becomes an oxidation agent by irradiation of a visible laser (420-550 nm), (b) a leuco body
which becomes a dye by reacting with the oxidation agent, (c) a photopolymn. initiator which generates a radical with the dye by irradiating with light (550-700 nm), and (d) >1 ethylenically unsatd. compound nongaseous at room temperature The method for **image** formation involves irradiating with a visible laser 420-550 nm, and then with light 550-700 nm to harden **image** areas. The material shows high sensitivity to visible laser.
IT **19226-99-4**
RL: USES (Uses)
(visible laser-sensitive **image** forming material containing)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



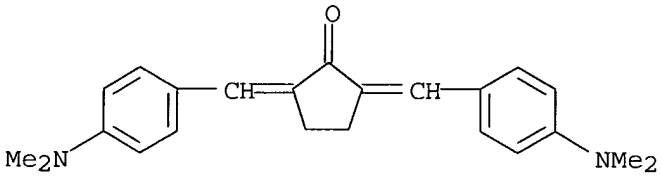
L30 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:496389 CAPLUS
DN 103:96389

TI Photoinsolubilizing resin composition
PA Agency of Industrial Sciences and Technology, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60078443	A2	19850504	JP 1983-186398	19831005
	JP 05065869	B4	19930920		
PRAI	JP 1983-186398		19831005		

AB Resin composition contains ethylenic monomer and a photoinitiator, which is a combination of an unsatd. ketone having the general formula I (R, R1, R4, R5 = alkyl; R2, R3 = H, or are combined to form C1-3 alkylene group that is a part of a ring system; n = 0,1) with a diaryliodonium salt. The unsatd. ketone effectively promotes photodecompn. of the iodonium compound, and the use of the photoinitiator provides high sensitivity of the resin composition, especially at longer wavelengths. Thus, 0.01 part of diphenyliodonium hexafluorophosphate and 0.01 part of bis(p-dimethylaminobenzylidene)acetone were added to 1 part of 10% dioxane solution of a copolymer prepared by introducing methacryloyl group to 1:1 chloromethylstyrene-Me methacrylate copolymer, and the mixture was coated on an anodized Al plate. Photosensitivity to Xe lamp radiation was 32 times higher than that of com. products.

IT **19226-99-4**
RL: USES (Uses)
(photoimaging resin composition containing)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L30 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:176527 CAPLUS
DN 102:176527
TI Photographic recording using photohardenable materials
IN Grossa, Mario
PA Du Pont de Nemours (Deutschland) G.m.b.H., Fed. Rep. Ger.
SO Ger., 8 pp.
CODEN: GWXXAW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3335309	C1	19840816	DE 1983-3335309	19830929
	US 4595651	A	19860617	US 1984-647809	19840906
PRAI	DE 1983-3335309	A	19830929		

AB A process for the photoimaging of selective regions of an original as equi-d. or contour images involves imagewise exposing a photohardenable material to light of wavelength A which desensitizes the material to exposure by light of wavelength B, and then photohardening the material by

exposure to light of wavelength B. The **image** formation proceeds through ≥2 imagewise exposures with light of different wavelengths and addnl. nonimagewise, photohardening final exposure. Thus, a PET support was overcoated with a CH2Cl2 solution containing poly(vinyl acetate) 12.6, poly(Me methacrylate) 31.1, trimethylolpropane triacrylate 35.6, oxyethylated trimethylolpropane triacrylate 8.0, oxyethylated hexadecanol 8.0, 2-(o-chlorophenyl)-3,4-diphenylimidazole 1.6, 2-mercaptobenzoxazole 08, an inhibitor precursor 2.0, and a sensitizer 0.3% and then laminated at 100° to a white paper. The laminate was then exposed through a halftone wedge (wedge constant of √2) for 10 s to light of λ = 400-700 nm and 90 s to light of λ = 300-400 nm followed by a nonimage exposure for 15 s to light of λ = 400-700 nm. After the exposure the polyester layer was stripped off, and the **image** toned. The width of the equi-d. was 1.7.

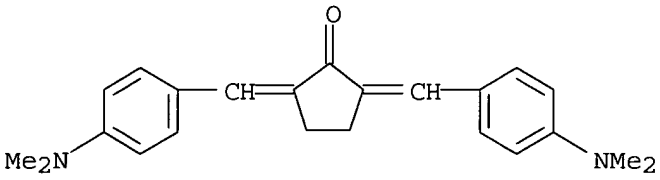
IT **19226-99-4**

RL: USES (Uses)

(photoimaging compns. containing, for contour or equidensity images)

RN 19226-99-4 CAPLUS

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



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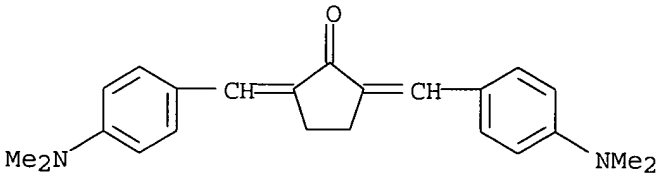
L33 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:389593 CAPLUS
DN 122:147301
TI Distinguishing markable **photoresist** material
IN Grossa, Mario
PA Du Pont de Nemours (Deutschland) GmbH, Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 4240141	A1	19940601	DE 1992-4240141	19921128
PRAI DE 1992-4240141		19921128		

AB The title material comprises: (1) a polymer binder; (2) an ethylenically unsatd. addition polymerizable compound; (3) a leuco dye; (4) a UV light-absorbing free radical-forming hexaaryl bisimidazole-type initiator; (5) a spectral sensitizer dye for visible or IR region; and (6) an another free radical-forming initiator of the type aromatic carbonyl compound where the carbonyl compound absorbs only in the UV region and the spectra sensitizer selectively sensitizes the bisimidazole-type initiator. The composition produces high d. images.

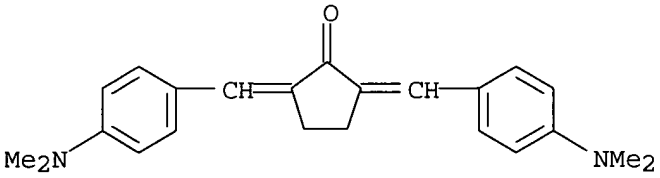
IT **19226-99-4**
RL: MOA (Modifier or additive use); USES (Uses)
(carbonyl compound as photopolymn. initiator)

RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L33 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:74750 CAPLUS
DN 122:146976
TI Visible light **photopolymerization** initiated by hexaarylbiimidazole (HABI's)
AU Yang, Weidong; Yang, Yongyuan; Wang, Junshen; Zhang, Cunlin; Yu, Meiwen
CS Institute of Photographic Chemistry, Academia Sinica, Beijing, Peop. Rep. China
SO Journal of Photopolymer Science and Technology (1994), 7(1), 187-92
CODEN: JSTEEW; ISSN: 0914-9244
DT Journal
LA English
AB Kinetics of Me methacrylate (MMA) photopolymn. was studied using 2,5-bis(4'-diethylaminobenzylidene)cyclopentanone (DEAP) and 2,5-bis(4'-dimethylaminobenzylidene)cyclopentenone (DMAP) as visible light sensitizers and 2-chlorohexaarylbiimidazole (o-Cl-HABI) as polymerization initiator. The photopolymn. study were carried out in toluene solution at 30°C. The polymerization rate was proportional to the concentration with exponent of 0.85, -0.28, 0.30, 1.0 for DEAP, o-Cl-HABI, 3-mercapto-4-methyl-4H-1,2,4-triazole additive,MMA, resp. The photopolymer materials can record stable hologram with sensitivity of 30.apprx.300mJ/cm2 and resolution of 4000 1/mm.

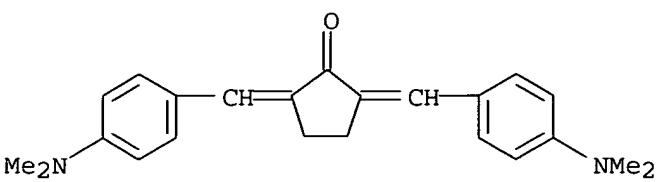
IT **19226-99-4**
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(photoinitiator; kinetics of visible light-induced photopolymn. of Me methacrylate initiated by hexaarylbiimidazole for holog. **recording**)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L33 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:437581 CAPLUS
DN 119:37581
TI **Photopolymerizable** compositions for lithographic printing plates
IN Okamoto, Hiroaki
PA Okamoto Kagaku Kogyo Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05078410	A2	19930330	JP 1991-268302	19910919
PRAI JP 1991-268302		19910919		

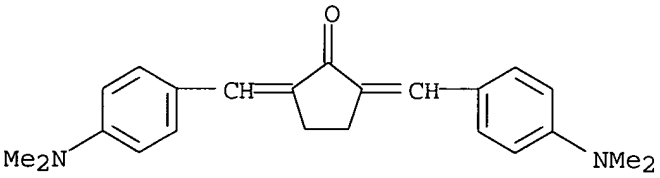
OS MARPAT 119:37581
AB The title compns. comprise radical polymerizable compds. having ≥2 ethylenically unsatd. double bonds and photoinitiator mixts. containing p-RR1NC6H4(CH:CH)nCH:CR2COCR22:CH(CH:CH)np-C6H4NRR1 [R, R1 = C1-6 alkyl, cycloalkyl, hydroxyalkyl; RR1 may be tetramethylethylene (sic), pentamethylethylene (sic), oxybisethylene; R2, R22 = H, alkyl, Ph; R2R22 may be (CH2)2, (CH2)3, or CO; n = 0-3], PPh3 and/or quaternary phosphonium salts, thiols I (Z = NH, S, O), and tetrazolium derivs. II [R3-5 = alkyl, (un)substituted aryl, styryl, thienyl, trimethylammoniumindolyl; X = Cl, perchloride]. The compns. show high Ar laser sensitivity and are useful as **photosensitive** layer in presensitized lithog. printing plates.
IT **19226-99-4**
RL: USES (Uses)
(photoinitiators containing, in **photosensitive** layers for lithog. printing plates)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L33 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:244666 CAPLUS
DN 118:244666
TI **Photosensitive** resin composition and hologram **recording** media and its **recording**
IN Kobayashi, Tatsu; Yoshinaga, Yoko
PA Canon Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 04368948	A2	19921221	JP 1991-171953	19910618
PRAI JP 1991-171953		19910618		

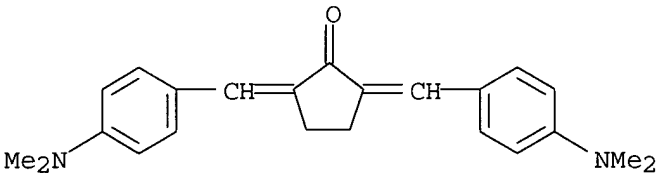
OS MARPAT 118:244666
AB The composition contains a vinylcarbazole-containing polymer and a halo-containing Si compound R1R2R3R4Si [R2-4 = halo, H, (substituted) alkyl, cycloalkyl, OH, alkoxy, (substituted) aryl, aryloxy, alkylcarbonyl, alkoxycarbonyl, NH2, dialkylamino, NO2, CN; R1 and R2 may form a ring with Si; R1 = halo] as a crosslinking agent. The media contain the composition The method exposuring the media by an UV ray or a visible light.
IT **19226-99-4**
RL: USES (Uses)
(photosensitized pigment, **photosensitive** resin containing, for hologram **recording**)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L33 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:33174 CAPLUS
DN 114:33174
TI Cycloalkene compounds for thermal **recording** materials
IN Wakasugi, Kazuyuki; Kikkawa, Katsumasa; Yamaguchi, Masahiko; Motohashi, Katsuichi
PA Hodogaya Chemical Co., Ltd., Japan
SO Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 364120	A2	19900418	EP 1989-309647	19890921
EP 364120	A3	19910814		
EP 364120	B1	19930811		
R: DE, FR, GB				
JP 02103265	A2	19900416	JP 1988-255920	19881013
JP 2566635	B2	19961225		

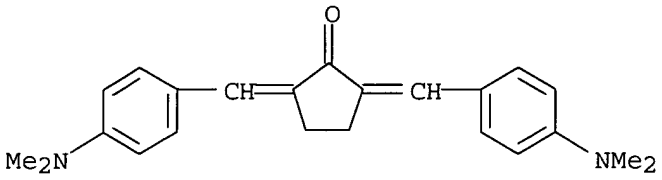
US 4987262 A 19910122 US 1989-412127 19890925
PRAI JP 1988-255920 A 19881013
OS MARPAT 114:33174
AB The title compds. have the general formula I [R1, R2, R6 = C1-4 alkyl; R3 = H, R1; R4 and R5 together form -CH2CH2- or -(CH2)3-] and are used as color formers in thermal **recording** materials.
IT **19226-99-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in preparing color former for thermal **recording** material)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L33 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:554275 CAPLUS
DN 113:154275
TI Cycloalkene compounds and **recording** materials using these compounds as color formers
IN Wakasugi, Kazuyuki; Yamaguchi, Masahiko; Sato, Hiroko; Motohashi, Katsuichi
PA Hodogaya Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 02135264	A2	19900524	JP 1988-288768	19881117
PRAI JP 1988-288768		19881117		

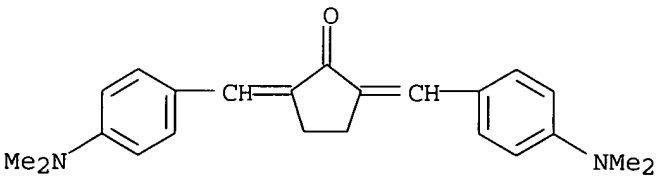
OS MARPAT 113:154275
AB The title color formers I (R1, R2 = lower alkyl; R3 = H, lower alkyl; R4, R5 = (CH2)1-3; R6 = lower alkyl, substituted phenyl], showing strong absorption in the near-IR region when developed, are prepared Thus, 4-Me2NC6H4CHO was treated with cyclohexanone in EtOH in the presence of NaOH to give 2,6-bis[4-(dimethylamino)benzylidene)cyclohexanone which was reduced with NaBH4 in tetrahydrofurfuryl alc.-THF and treated with HClO4 to give 2,6-bis[4-(dimethylamino)benzylidene]cyclohexanium perchlorate which was then treated with PhSO2Na.2H2O in MeOH to give I [R1 = R2 = Me, R3 = H, R4R5 = (CH2)3, R6 = Ph], greenish blue or bluish green on clay, resin, salicylates, etc.
IT **19226-99-4P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture and reduction of)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L33 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:88367 CAPLUS
DN 112:88367
TI Visible ray-sensitive **photopolymerizable** vinyl polymer compositions
IN Imahashi, Satoshi; Saito, Atsushi
PA Toyobo Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 01205153	A2	19890817	JP 1988-29581	19880210
PRAI JP 1988-29581		19880210		

AB The title composition contains ≥1 vinyl compds. nongaseous at room temperature, an organic peroxide group ArC(:O)O2- [Ar = Ph (substituted with ≥1 groups selected from Ph, amino, carbonyl, and halo), C1-4 alkyl, C1-4 alkoxy]-containing compound, and p-aminophenyl unsatd. ketone I [R1-2 = H, C1-5 alkyl; R3 = methylidine, C1-5 alkylenylidine forming ring with CO; R4 = C, (substituted) Ph, a group forming indanone or tetralone with R3 and CO; R5 = p-R6R7NC6H4(CH:CH)nCH:; R6-7 = H, C1-5 alkyl; m, n = 0, 1]. The composition is useful for a **photoresist** or a printing plate. Thus, a transparent PET film was coated with a composition of methacrylic acid-Me methacrylate copolymer, tetraethylene glycol diacrylate, 3,3',4,4'-tetra(tert-butylperoxycarbonyl)benzophenone, 2,5-bis(4'-diethylaminobenzylidene)cyclopentanone, MeOH, and EtOAc, dried, coated with aqueous poly(vinyl alc.), dried, neg. pattern-wise irradiated at 490 nm, aqueous Na2CO3-developed, and washed to give a highly-cured pattern.
IT **19226-99-4**
RL: USES (Uses)
(photoresists from, visible ray-sensitive)
RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L33 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:544118 CAPLUS
DN 111:144118
TI **Photopolymerization** initiator and **photoresist** composition containing same
IN Kaji, Makoto; Kaneko, Futami; Hayashi, Nobuyuki
PA Hitachi Chemical Co., Ltd., Japan

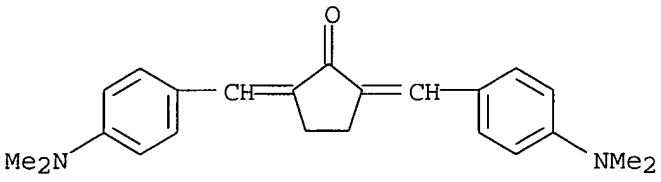
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63309502	A2	19881216	JP 1987-144902	19870610
	JP 2536528	B2	19960918		
PRAI	JP 1987-144902		19870610		

AB The title photopolymn. initiator contain (I) [R1-5 = H, C1-12 alkyl, halo; R6 = H, C1-12 alkyl, cycloalkyl, C1-12 hydroxyalkyl, C1-12 alkoxyalkyl, C1-12 aminoalkyl, aryl; R7-8 = H, C1-8 alkyl] and (II) [R9,10 = C1-9 alkyl; R11-14 = H, C1-4 alkyl, C1-4 alkoxy, halo; R15, R16 = H, C1-4 alkyl; Z = aryl, styryl], and the title **photoresist** composition contains I, II, and an addition polymerizable compound with b.p. ≥100°. High sensitivity to visible light is confirmed by the photopolymn. initiator.

IT **19226-99-4**
RL: USES (Uses)
(photopolymn. initiator containing, for **photoresist** composition)

RN 19226-99-4 CAPLUS
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L33 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1972:427427 CAPLUS
DN 77:27427
TI **Photoactivatable** compositions
IN Baum, Martin D.; Henry, Cyrus P., Jr.
PA du Pont de Nemours, E. I., and Co.
SO Ger. Offen., 44 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2133515	A	19720113	DE 1971-2133515	19710706
	DE 2133515	B2	19760812		
	DE 2133515	C3	19770324		
	US 3652275	A	19720328	US 1970-53686	19700709
	FR 2100341	A5	19720317	FR 1971-24823	19710707
	GB 1341244	A	19731219	GB 1971-31879	19710707
	BE 769695	A1	19720110	BE 1971-105645	19710708
PRAI	US 1970-53686	A	19700709		

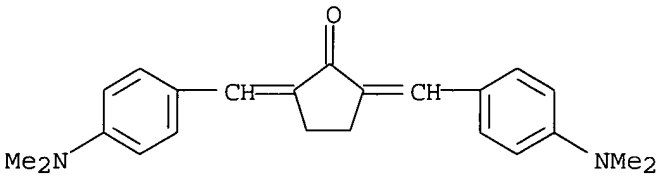
AB **Photoactivatable** compns. that can be utilized as light filters or photooxidn. or photopolymn. initiators are composed of a hexaarylbiimidazole whose principal radiation absorption bands are in the uv region of the spectrum and which dissocs. into triarylimidazolyl radicals on uv irradiation, and a sensitizing bis(p-aminophenyl)-α,β-unsatd. ketone (I), where R1 and R2 are alkyl or H; R3 is H, alkyl, Cl, or MeO; R4 and R5 are H, alkyl, or R4R5 is CH2CH2,

CH2CH2CH2, or CH2CH2CH2CH2; n = 0, 1, and in which I has its main absorption bands in the visible region. Thus, a Mylar film coated with a solution containing cellulose acetate butyrate 13.2, 2,2'-bis(o-chlorophenyl)-4,4',-5,5'-tetrakis(m-methoxyphenyl)biimidazole 3, 2-mercaptobenzoxazole 0.1, I (R1 and R2 are Et, R3 is H, (R4R5) is CH2CH2, n = 0) (II) 0.05 g, and triethylene glycol dimethacrylate 12.5 ml is covered with a polyester film and exposed to filtered radiation of 366 and 430 nm. The exposure time for complete photopolymn. for irradiation at 366 and 430 nm is 2 and 2 sec, resp., vs. 8 and 2 sec, resp., for a II-free control.

IT **19226-99-4**
RL: USES (Uses)
(photosensitizer, for **photoactivatable** compns. containing hexaarylbiimidazole)

RN 19226-99-4 CAPLUS

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



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     FILE 'CAPLUS' ENTERED AT 18:37:37 ON 03 APR 2005
L27          36 S L23
L28           1 S L26
L29      306586 S IMAGE OR IMAGING
L30           5 S L29 AND (L27 OR L28)
L31          31 S L27 NOT L30
L32      244973 S PHOTOSENSITIVE OR PHOTOACTIVATABLE OR RECORDING OR PHOTOPOLYM
L33           9 S L31 AND L32
L34         114 S 5MW OR 5 MILLIWATTS OR 5MILLI WATTS OR 5 MILLI WATTS
L35         145 S 2MW OR 2 MILLIWATTS OR 2MILLI WATTS OR 2 MILLI WATTS
L36          50 S 3MW OR 3 MILLIWATTS OR 3MILLI WATTS OR 3 MILLI WATTS
L37          43 S 4MW OR 4MILLIWATTS OR 4MILLI WATTS OR 4 MILLI WATTS

=> s (l34 or l35 or l36 or l37) and (l27 or l28 or l33 or l31)
L38           0 (L34 OR L35 OR L36 OR L37) AND (L27 OR L28 OR L33 OR L31)

=> s l34 and l27
L39           0 L34 AND L27
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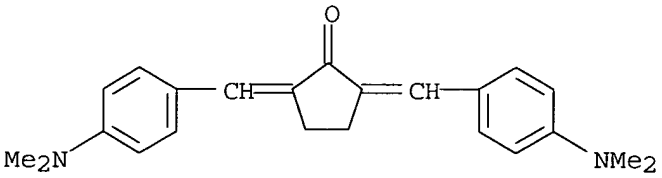
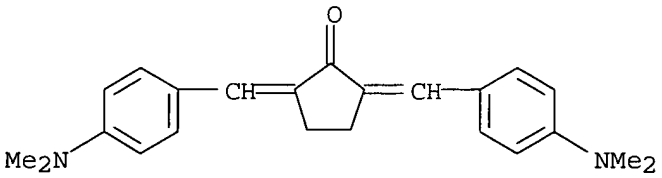
L40 ANSWER 1 OF 4 USPATFULL on STN
AN 91:7159 USPATFULL
TI Cycloalkene compounds useful in recording materials
IN Kazuyuki, Wakasugi, Tokyo, Japan
Kikkawa, Katsumasa, Tokyo, Japan
Yamaguchi, Masahiko, Tokyo, Japan
Motohashi, Katsuichi, Tokyo, Japan
PA Hodogaya Chemical Co., Ltd., Tokyo, Japan (non-U.S. corporation)
PI US 4987262 19910122
AI US 1989-412127 19890925 (7)
PRAI JP 1988-255920 19881013
DT Utility
FS Granted
EXNAM Primary Examiner: Raymond, Richard L.
LREP Sherman and Shalloway
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 400
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel cycloalkene compound represented by the following general formula [1]: ##STR1## wherein each of R.sup.1 and R.sup.2 is a C.sub.1 -C.sub.4 alkyl group, R.sup.3 is a hydrogen atom , or a C.sub.1 -C.sub.4 alkyl group, R.sup.4, together with R.sup.5, forms --CH.sub.2 --CH.sub.2 --or --CH.sub.2 --CH.sub.2 --CH.sub.2 --, and R.sup.6 is a C.sub.1 -C.sub.4 alkyl group.
IT **19226-99-4P**
(preparation and reaction of, in preparing color former for thermal recording
material)
RN 19226-99-4 USPATFULL
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L40 ANSWER 2 OF 4 USPATFULL on STN
AN 86:35649 USPATFULL
TI Process for producing equidensity images using photohardenable materials
IN Grossa, Mario, Dreieich, Germany, Federal Republic of
PA E. I. Du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 4595651 19860617
AI US 1984-647809 19840906 (6)
PRAI DE 1983-3335309 19830929
DT Utility
FS Granted
EXNAM Primary Examiner: Kittle, John E.; Assistant Examiner: Hamilton, Cynthia
CLMN Number of Claims: 6
ECL Exemplary Claim: 1,2
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 460
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Process for photographic recording of selective areas of an original

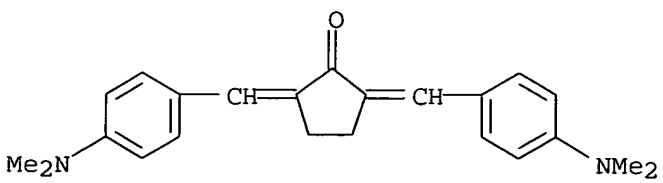
image, e.g., as equidensities and/or contour images, on a photohardenable material, e.g., (a) nongaseous monomer compound, (b) organic photoinitiator or photoinitiator/sensitizer system and (c) photoinhibitor activatable by ultraviolet radiation, which comprises in either order (A) exposing the photohardenable layer with desensitizing radiation, and (B) photohardening the layer with photohardening radiatiion, exposures (A) and (B) being imagewise exposures with the proviso that if exposure (B) is the first imagewise exposure, a nonimagewise final exposure is utilized.

IT **19226-99-4**
(photoimaging compns. containing, for contour or equidensity images)
RN 19226-99-4 USPATFULL
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)

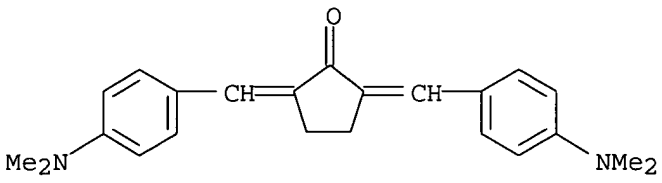


L40 ANSWER 3 OF 4 USPATFULL on STN
AN 74:62063 USPATFULL
TI ARYLIDENE CYCLANONES IN INHIBITING ANDROGEN ACTION
IN Scanlon, William B., Indianapolis, IN, United States
PA Eli Lilly and Company, Indianapolis, IN, United States (U.S. corporation)
PI US 3857953 19741231
AI US 1972-315947 19721218 (5)
RLI Continuation-in-part of Ser. No. US 1971-182123, filed on 20 Sep 1971, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Friedman, Stanley J.
LREP Martens, Jr., William C., Smith, Everet F.
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 581
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for inhibiting action of androgens by administering an effective amount of an arylidene cyclanone, anti-androgen compositions containing an arylidene cyclanone, and selected arylidene cyclanones.

IT **19226-99-4P**
(preparation of)
RN 19226-99-4 USPATFULL
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L40 ANSWER 4 OF 4 USPATFULL on STN
AN 72:16254 USPATFULL
TI HEXAARYLBIIMIDAZOLE BIS (p-DIALKYL-AMINOPHENYL-α,β-UNSATURATED) KETONE COMPOSITIONS
IN Baum, Martin D., Wilmington, DE, United States
Henry, Jr., Cyrus P., Wilmington, DE, United States
PA E. I du Pont de Nemours and Company, Wilmington, DE, United States
PI US 3652275 19720328
AI US 1970-53686 19700709 (5)
DT Utility
FS Granted
EXNAM Primary Examiner: Torchin, Norman G.; Assistant Examiner: Fichter, Richard E.
LREP Powell; John R.
CLMN Number of Claims: 36
DRWN No Drawings
LN.CNT 1249
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising a hexaarylbiimidazole and a selected bis(p-aminophenyl-...α ,β-unsaturated) ketone and optionally, a leuco dye, a polymerizable monomer or inert components such as binders, solvents and the like are photo-activated in the visible light wavelengths.
IT **19226-99-4**
(photosensitizer, for photoactivatable compns. containing hexaarylbiimidazole)
RN 19226-99-4 USPATFULL
CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



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L43 ANSWER 1 OF 2 USPATFULL on STN
AN 86:35649 USPATFULL
TI Process for producing equidensity images using photohardenable materials
IN Grossa, Mario, Dreieich, Germany, Federal Republic of
PA E. I. Du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 4595651 19860617
AI US 1984-647809 19840906 (6)
PRAI DE 1983-3335309 19830929
DT Utility
FS Granted
EXNAM Primary Examiner: Kittle, John E.; Assistant Examiner: Hamilton, Cynthia
CLMN Number of Claims: 6
ECL Exemplary Claim: 1,2
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 460
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
DETD The invention is illustrated by the following examples wherein the percentages are by weight. The molecular weights of polymeric compounds are weight average molecular weights (**Mw**). The **Mw** of the polymers can be determined by using a light scattering technique using known standard samples, e.g., polystyrene, polymethacrylic acid, polymethylmethacrylate, etc. as known to those skilled in the art.
DETD

Copolymer with an .sup.--**Mw** of ca. 50,000 comprising	
40% tert.-octyl acrylamide,	
	53.6%
25% methyl methacrylate,	
15% hydroxypropyl methacrylate,	
16% acrylic acid and	
4% tert.-butyl aminoethyl methacrylate	
Terpolymer with an .sup.--**Mw** of ca. 260,000 comprising	
56% ethyl acrylate	3.8%
37% methyl methacrylate and	
7% acrylic acid	
Trimethylol propane triacrylate	
	23.0%
Triethylene glycol dimethacrylate	
	8.0%
Tetraethyleneglycol dimethacrylate	
	4.0%
Dimer of 2-(o-chlorophenyl)-3,4-diphenyl imidazole	
	5.0%
Compound A from Example 1	1.9%
Leuco Crystal Violet, Basic Violet 3,	
	0.25%
C.I. No. 42553	
Compound B from Example 1	0.35%
Victoria Pure Blue BO, C.I. No. 42595	
	0.1%
(C.I. Basic Blue 7)	

DETD Terpolymer with a **Mw** of ca. 260,000 comprising
DETD

56% ethyl acrylate	20.9%
37% methyl methacrylate and	
7% acrylic acid	
Carbon black	17.1%
Styrene/maleic acid copolymer (1:1),	
	33.7%
partially esterified with sec. butanol	

(-- **Mw** ca. 10,000)
Triethylene glycol dimethacrylate 8.5%
Trimethylol propane triacrylate 8.5%
6-nitroveratraldehyde 1.8%
Dimer of 2-(o-chlorophenyl)-3,4-diphenyl imidazole 8.6%
Compound C 0.9%

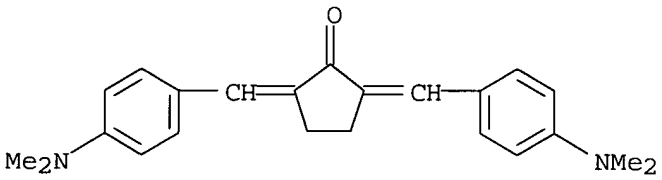
Compound C
##STR3##

IT 77-99-6D, ethoxylated, triacrylate 79-10-7D, ester with ethoxylated trimethylolpropane 109-16-0 109-17-1 603-48-5 1707-68-2 2382-96-9 3290-92-4 9003-20-7 9004-95-9 9011-14-7 **19226-99-4** 20357-25-9 21829-25-4 25135-39-1 56646-84-5 67016-70-0 80867-06-7 96024-63-4
(photoimaging compns. containing, for contour or equidensity images)

IT **19226-99-4**
(photoimaging compns. containing, for contour or equidensity images)

RN 19226-99-4 USPATFULL

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



L43 ANSWER 2 OF 2 USPATFULL on STN

AN 72:16254 USPATFULL

TI HEXAARYLBIIMIDAZOLE BIS (p-DIALKYL-AMINOPHENYL-α,β-UNSATURATED) KETONE COMPOSITIONS

IN Baum, Martin D., Wilmington, DE, United States
Henry, Jr., Cyrus P., Wilmington, DE, United States

PA E. I du Pont de Nemours and Company, Wilmington, DE, United States

PI US 3652275 19720328

AI US 1970-53686 19700709 (5)

DT Utility

FS Granted

EXNAM Primary Examiner: Torchin, Norman G.; Assistant Examiner: Fichter, Richard E.

LREP Powell; John R.

CLMN Number of Claims: 36

DRWN No Drawings

LN.CNT 1249

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DETD a. Films prepared from formulations C, D, F and G were exposed to light of intensity 1.5 **mw**/cm..sup.2 from a mercury-vapor lamp; two Corning filters 7-54 and one 0-52 filter were used to give 40 mμ bands of incident light centered near 366 μ. Under these conditions, formulation F was fully photopolymerized in 8 seconds, formulation G in 16 seconds, illustrating that hexaarylbiimidazole of F is approximately 2 times faster than that of G.

DETD b. Repeating (a), but with light of intensity 10.0 **mw** /cm..sup.2 (mercury-vapor lamp) with a wavelength range of about 40 mμ centered near 430 mμ, resulting from the use of one Corning 7-59 and one 3-74 filter, gave entirely different results. Under these

conditions, formulation D exhibited a photopolymerization rate (16 sec.) about four times that of G (64 sec.). Similarly, the ketone sensitized formulation C is about three times faster than the unsensitized formulation F. These data illustrate the efficacy of ketone IV in photopolymerization.

DETD c. Repeating (b), including film formulation B, but with light of intensity 25.0 **mw**/cm..sup.2 and at wavelength greater than 430 mμ, resulting from the use of one Corning 3-72 filter and one I-69 filter, gave still different results. Under these conditions, formulations F and G (no sensitizer) showed no photopolymerization even after 4-minute exposures. Formulations C and D, on the other hand, exhibited photopolymerization rates as shown in 2a, namely 8 and 16 seconds, respectively. Under these long wavelength irradiation conditions, there is, apparently, no absorption of the biimidazole, hence no photodissociation or photo-induced polymerization. The presence of ketone IV, on the other hand, provides a photopolymerization rate equal to irradiation with near ultraviolet light (a).

DETD "Mylar" (1mil thick) polyester film was coated to a wet thickness of 6 mil using an acetone solution of cellulose acetate butyrate (13.2 grams), triethyleneglycol dimethacrylate (12.5 milliliters), 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetrakis-(m-methoxyphenyl)biimidazole (3.0 grams), 2-mercaptobenzoxazole (0.10 grams) and various amounts of Michler's ketone (MK), p,p-bis(dimethylamino)benzophenone, and/or ketone sensitizers of this invention, and laminated as in Example 2. The films were irradiated at two different wavelengths, obtained by the use of suitable filters. Irradiation with light at about 366 mμ, incident intensity of 1.00 **mw**/cm..sup.2, was obtained using two Corning 7-54 filters and one 0-52 filter. Irradiation at 430 mμ, incident intensity of 10.0 **mw**/cm..sup.2, was obtained using one Corning 7-59 and one 3-74 filter. The irradiation time required to give complete photopolymerization at the two wavelengths is shown in Table III.

##SPC4##

DETD

Film	Incident Intensity 5 **mw**./cm..sup.2	15 **mw**./cm..sup.2	26 **mw**./cm..sup.2
Unsensitized Control	--	0.06	0.06
Control with Sensitizer II	0.23	0.39	0.53
Control with Sensitizer VIII	0.25	0.41	0.49

DETD the formulations were coated on 3 mil polyester film, dried; and then laminated with a 1.42 mil polyester film. Exposure of films A, B, and C to light of 1.0 **mw**/cm..sup.2 intensity from a mercury-vapor lamp resulted in all three films being completely polymerized with the same one second exposure. The light was of broad wavelength centered near 366 mμ via use of two Corning 7-54 and one 0-52 filters.

DETD However, exposure of films A, B and C to light of 10.0 **mw** /cm..sup.2 intensity but centered near 430 mμ wavelength via use of one Corning 7-59 and one 3-74 filter showed that both films B and C with sensitizers IV and VII gave complete polymerization with 1/4 the exposure time required for the unsensitized film, A. Under these conditions sensitizer VII was as effective as sensitizer IV and it had less background color.

DETD Solution B comprised 0.15 g. of 1,1-dimethyl-3,5-diketocyclohexanene in 10 ml. of methanol. Formulations 1-4 were applied to 3 mil Mylar polyester film at a wet thickness of 5 mil and dried with a heat lamp. The dried films were laminated with a cover sheet of 1 mil Mylar polyester film. The films at a temperature of 75° C., were exposed to a XB0150W1 xenon arc lamp through a Corning 3-72 filter. This

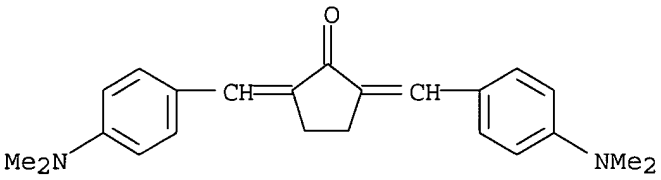
filter passes light of wavelengths greater than 430 mμ. The irradiance at the film plane was 12.5 **mw**/cm.sup.2. After this exposure the films were exposed to a single flash from a xenon flashtube (Model K, Hico Corporation, Watertown, Mass.) and the resulting optical densities measured with a Macbeth Quantalog transmission densitometer.

IT **19226-99-4** 38394-50-2 38394-52-4 38394-53-5
(photosensitizer, for photoactivatable compns. containing hexaarylbiimidazole)

IT **19226-99-4**
(photosensitizer, for photoactivatable compns. containing hexaarylbiimidazole)

RN 19226-99-4 USPATFULL

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



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